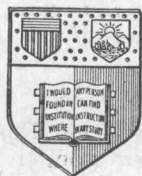


WHITE HALL: THE COLLEGE OF ARCHITECTURE

CORNELL UNIVERSITY COLLEGE OF ARCHITECTURE



1945-46

PUBLISHED BY THE UNIVERSITY
ITHACA, NEW YORK

The University Calendar for 1945-46

Excepting the Calendar, this Announcement reprints the issue of 1944-45.

Under the accelerated program of instruction, the University will offer two terms of sixteen weeks each during the course of the year 1945-46, as follows:

1945

FALL TERM

Nov. 2,	<i>Friday,</i>	Registration, Navy students.
Nov. 3,	<i>Saturday,</i>	Registration, civilian students.
Nov. 5,	<i>Monday,</i>	Instruction begins at 8 A.M.
Nov. 29,	<i>Thursday,</i>	Last day for the payment of tuition for the Fall Term.
Dec. 25,	<i>Tuesday,</i>	Christmas, a holiday.

1946

Feb. 23,	<i>Saturday,</i>	Examinations end at 5 P.M.
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SPRING TERM

March 1,	<i>Friday,</i>	Registration, civilian students.
March 2,	<i>Saturday,</i>	Registration, Navy students.
March 4,	<i>Monday,</i>	Instruction begins at 8 A.M.
March 28,	<i>Thursday,</i>	Last day for the payment of tuition for the Spring Term.
June 22,	<i>Saturday,</i>	Examinations end at 5 P.M.

CORNELL UNIVERSITY OFFICIAL PUBLICATION

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The Faculty of the College of Architecture

EDMUND EZRA DAY, Ph.D., LL.D., President of the University.
GEORGE HOLLAND SABINE, Ph.D., LL.D., Vice-President of the University.

GILMORE D. CLARKE, B.S., L.H.D., A.I.A. (Hon.), A.S.C.E., F.A.S.L.A., Dean and Professor of Regional Planning.

JOHN NEAL TILTON, JR., M.Arch., A.I.A., Professor of Architecture.

OLAF MARTINIUS BRAUNER, Professor of Drawing and Painting, Emeritus.

FRANCKE HUNTINGTON BOSWORTH, A.B., F.A.I.A., Professor of Architecture, Emeritus.

WALTER KING STONE, Associate Professor of Fine Arts, Emeritus.

GEORGE YOUNG, JR., B.Arch., F.A.I.A., Professor of Architecture.

CHRISTIAN MIDJO, Professor of Fine Arts.

RALPH WRIGHT CURTIS, B.S.A., M.S.A., Professor of Ornamental Horticulture.

LEROY P. BURNHAM, M.S.Arch., A.I.A., Professor of Architecture.

ALEXANDER DUNCAN SEYMOUR, B.S.Arch., A.I.A., Andrew Dickson White Professor of Architecture.

EUGENE DAVIS MONTILLON, B.Arch., F.A.S.L.A., A.I.A., Professor of Landscape Architecture.

DONALD LORD FINLAYSON, M.A., Professor of Fine Arts.

HUBERT E. BAXTER, B.Arch., Professor of Architecture.

JOHN A. HARTELL, B.Arch., Professor of Architecture. In charge of instruction in Fine Arts.

FREDERICK O. WAAGE, A.M., M.F.A., Associate Professor of the History of Art and Archaeology.

THOMAS W. MACKESY, B.Arch., M.C.P., A.I.A., Associate Professor of Regional Planning and Secretary of the College.

A. HENRY DETWEILER, B.Arch., Associate Professor of Architecture, and Secretary of the Faculty.

FREDERICK M. WELLS, B.Arch., Associate Professor of Architecture.

KENNETH L. WASHBURN, M.F.A., Assistant Professor of Fine Arts.

*JAMES O. MAHONEY, A.B., B.F.A., F.A.A.R., Assistant Professor of Fine Arts.

NORMAN D. DALY, B.F.A., M.A., Assistant Professor of Fine Arts.

GORDON F. STOFER, B.Arch., Assistant Professor of Architecture.

*ROBERT P. LANG, A.B., M.A., B.S., Librarian and Instructor of Fine Arts.

ELEANOR L. JOHNSON, A.B., B.S., Librarian.

MARION B. DAVIS, Library Assistant.

MONICA F. O'BRIEN, Assistant Secretary of the College.

*On leave of absence with the Armed Forces.

The College of Architecture

DEVELOPED AT CORNELL AS A
UNIT OF THE UNIVERSITY

AT CORNELL from the first there was a place in the university system for a school of Architecture. Although it owes its foundation to the Federal and State governments and Ezra Cornell, this University derives its distinctive character primarily from the ideas of Andrew Dickson White, one of its sponsors who became its first president. The initial plan of organization, which the trustees adopted at their first meeting in 1865, was White's plan. It called for the setting up of certain essential departments of instruction, one of which was to be Architecture. That was something bold and new, to recognize a means of higher education in that sort of training.

A modest department of Architecture was established in 1871, three years after the University was opened. It was fortunate to have President White himself for a patron. He had cultivated an intelligent interest in architecture from boyhood, as he records in his autobiography, and during journeys abroad his 'pet extravagance' had been the collection of books and other material relating to it. He gave the new department all that had accumulated—a large architectural library and several thousand architectural photographs, drawings, casts, models, and other items of material from all parts of Europe—a collection then almost if not quite unique. His gift formed the nucleus of an increasingly useful library and store of illustrative equipment.

In the course of time, as the University perfected its organization, the department became the College of Architecture, having grown to a respectable size and given other evidence of maturity. In 1922 it took under its charge a well-developed course in Landscape Architecture, adopting a department which the College of Agriculture at Cornell had been rearing since 1904. This union has proved to be invigorating, for it has been made to enrich the instruction in Architecture and Landscape Architecture alike. A department of Painting and Sculpture, organized in 1921, has had a similar effect, demonstrating the mutual value of correlated instruction in kindred arts. A university department, Regional and City Planning, subsidized for a period of five years (1935-1939 incl.) by the Carnegie Corporation, was made a part of the College of Architecture in 1935. As long ago as 1922 the college set a limit to the number of its students and devised a selective method of admission. It now has a faculty of fifteen and normally enrolls about 150 students. Teachers and students in

such a proportion can mix together freely and the instruction and criticism can be made quite individual.

While the College of Architecture is distinctively a professional school aiming at professional competence it can not afford to forget that it is a unit in a system of education and that its professional graduates are the better for being educated persons. That conviction may be reflected to some extent in the catalogue of courses, but not all of its effects can be catalogued. It is implicit in the teaching. It accounts for the credit to be earned by elective studies and for this college's organic articulation with various other university divisions. The candidate for any of the professional degrees normally does much of his work under professors of other arts and sciences. In his leisure time he can find means of acquaintance with any of the diverse human interests that occupy the members of a university.

THE PROFESSIONAL COURSES

REQUIREMENTS FOR THE DEGREES

The student's work is planned to lead to one of several professional degrees: in Architecture to the degrees of Bachelor of Architecture (B.Arch.) and Master of Architecture (M.Arch., Graduate School); in Landscape Architecture to that of Bachelor of Landscape Architecture (B.L.A.) and Master of Landscape Architecture (M.L.A., Graduate School); in Art (Teacher Training Course) to that of Bachelor of Fine Arts (B.F.A.), in Painting and Sculpture to those of Bachelor of Arts (A.B., College of Arts and Sciences) and Master of Fine Arts (M.F.A., Graduate School), and in Regional and City Planning to that of Master in Regional Planning (M.R.P., Graduate School). Typical courses of study are described and analyzed on pages 16-27.

The normal period of each course of study is five years (based on two terms each calendar year in the normal curriculum), although a student with exceptionally thorough preparation can satisfy the requirements for the degree in somewhat less time. Some students who have entered the college after taking an A.B. degree have earned the professional degree in as little time as three and one-half years. About three-tenths of the average entering class have had some college experience. In no case, however, can the rate of a beginner's progress be predicted, because that will depend in large part upon the quality of his work, not alone upon the quantity of it. In any term the number of hours work that the student is permitted to carry is determined by the grade of what he has already done. For that reason the length of time required for the completion of the course

will depend in any case upon the student's ability as indicated by his scholastic record. Crowding of the student's work, however, is disapproved because the time-element alone is important in training for a creative profession.

See pages 17-18 for accelerated programs of instruction.

ELECTIVE

STUDIES As a general rule the first year of each professional course is designed to lay the foundation for the major subjects of the technical program and incidentally to permit the first-year student to test his fitness to go on with that program. Throughout the remaining four years opportunities for elective studies are offered in such a sequence that increasing maturity of mind may enable the student to make the most profitable use of them. In each of these professional courses of study about one-fifth of the work leading to the degree is elective, consisting of studies to be chosen by the student himself, with the advice and approval of members of the Faculty, from the offerings of any college of the University. Such studies are intended to be liberally educational, developing some native intellectual faculty or interest quite outside the range of the professional course. A minor part of the time allotted to electives may, however, be used for intensive study in some one division of the professional requirement in which a student may prove to be either especially interested and competent or somewhat deficient.

COURSES OF STUDY

CORRELATED Since the professions of architecture and landscape architecture are fundamentally similar, the corresponding professional courses of study are intimately correlated. Much of the instruction, including all that of the first year, is the same in both. The work in design is the same for three terms. Later on certain problems in design are given jointly. From time to time there will be a problem of design requiring the formal collaboration of architect and landscape architect and occasionally of painter and sculptor as well. Even more profitable than the interlocking of the courses in Architecture and Landscape Architecture is the daily intermingling of their students, working as they do side by side in the drafting room, often under the same instruction, and with the professors of each department constantly in touch with the students of the other. Incidentally, the courses of study are so much alike in the earlier years and both are so flexible that a student can make a timely change of course if maturing taste and aptitude incline him that way.

The college offers the opportunity for those students interested in both architecture and landscape architecture to obtain the degree of Bachelor of Architecture (B.Arch.) after five years and the degree of Master of Landscape Architecture (M.L.A.) after one additional year of study. A typical course of study is described and analyzed on page 23.

INFORMAL

STUDIES

Under certain conditions a qualified student may expedite his progress by pursuing an Informal Study Course, in which he will be permitted to make some departure from the prescribed course of study for the sake of doing more intensive work in one or another section of it. This privilege may be accorded by the Committee on Admissions to a student who is entering the College with a considerable amount of advanced credit. The Faculty may grant it to a student who has done especially meritorious work in the college and who asks for it by formal petition bearing his faculty adviser's approval. The student admitted to such a course will do his work under his adviser's supervision and the Faculty will grant him periodical credit commensurate with his progress.

SELECT FIELDS

OF STUDY

A candidate for any of the degrees that the college offers may, if found to be qualified, enter upon a Select Field of Study for the period of his fourth and fifth years. (See page 16 for a list of those fields and a statement of the conditions of entrance, and page 19 for typical outlines of three such fields.)

PLANNING AND

HOUSING

The department of Regional and City Planning offers courses of instruction in the principles and practice of broad-scale Planning and of Housing. These courses may be elected by students of the Colleges of Architecture, Engineering, and Arts and Sciences and by qualified students of other divisions of the University. Further information about them is given on page 24.

INDUSTRIAL

DESIGN

Instruction in Industrial Design is offered to give the student a general knowledge of the special problems involved in this increasingly important field of endeavor. A background of training in architecture is necessary for those who may wish

to specialize in the field of industrial design. Further information is given on page 37.

THESIS

The satisfactory completion of a thesis is required of every candidate for the bachelor's or master's degree in the College of Architecture. The thesis must be completed during the last term of residence. It must consist of an independent study, the subject of which has been selected by the student with the Faculty's approval. The thesis is expected to demonstrate the student's proficiency in his particular field of study.

ENTRANCE REQUIREMENTS

ADMISSION TO THE COLLEGE The entrance requirements of the College of Architecture are to be found in the University's *General Information Number*. The University's rules governing admission to any of its colleges are also given there. Prospective students should address the Director of Admissions, Cornell University, Ithaca, N. Y., asking for forms to be used in making application for admission. Applications for admission at the beginning of the fall term should be received by September 1. For admission at the beginning of the spring term candidates should apply by February 1. For admission at the beginning of the summer term candidates should apply by June 1.

**ADMISSION TO
ADVANCED STANDING** A student who has already attended a technical school or other institution of collegiate rank may be admitted at the beginning of the fall term or, if a satisfactory schedule can be arranged, at the beginning of the spring or summer terms. The applicant is required to meet all entrance requirements and to comply with the rules governing admission. In addition he should file with the Director of Admissions an official transcript of record of his work at the institution already attended, together with a certificate of honorable dismissal therefrom. He should also send a catalogue of that institution, writing his name thereon, and marking the courses which he has taken as listed in the official transcript. Advanced credit for courses in the College of Architecture is given only upon examination by the department concerned. A preliminary ruling will, however, be made by the Committee on Admissions on the evidence submitted.

GRADUATE

STUDY The Graduate School of Cornell University offers the degrees of Master of Architecture (M.Arch.), Master of Landscape Architecture (M.L.A.), Master of Fine Arts (M.F.A.), and Master in Regional Planning (M.R.P.).

The requirements for advanced degrees are based upon the completion of a definite period of residence, the presentation of a satisfactory thesis, and the passing of an examination. The graduate student's work is expected to be independent and original.

In order to be admitted to candidacy for the M.Arch., M.L.A., M.F.A., or M.R.P. degree, an applicant must be qualified under the Graduate School's general rules of admission (to be found in the *Announcement of the Graduate School*) and must have had a training at least equivalent in quantity or quality to that which this University requires of candidates for the baccalaureate degree specializing in the undergraduate course that corresponds to the kind of study—historical, theoretical, or creative—which the applicant proposes to pursue. The applicant's credentials and his plan of study must be submitted to the executive committee of the Graduate School's Division of Architecture and Fine Arts and admission is subject to that Committee's approval.

The degree of Master in Regional Planning is offered to students who satisfactorily meet the requirements as set forth on page 24.

The degree of Master of Fine Arts is awarded upon successful completion of a specified course of study in the history and practice of the Fine Arts, set forth on page 25.

The degree of Master of Landscape Architecture is awarded upon successful completion of a specified course of study as set forth on page 23.

EQUIPMENT

BUILDINGS The college occupies the third and fourth floors and a portion of the basement of White Hall, and the top floor of Franklin Hall. The college offices, library, and exhibition rooms are on the third floor of White Hall. Three drafting rooms, opening together so as to form virtually a single room measuring 45 x 156 feet, occupy the entire fourth floor. On the top floor of Franklin Hall are well lighted studios devoted to the work in free-hand drawing, painting, and modeling.

LIBRARIES

The college's library comprises more than 10,000 volumes. It is adapted to use as a working collection and to the requirements

of research. All the leading professional periodicals, American and foreign, are currently received and are preserved in bound volumes. There is also at hand a highly developed collection of photographs, color prints, and drawings, and a growing collection of lantern slides, many of them in color, which now numbers more than 30,000. The University Library, the special libraries of various departments, and a 'browsing library' for recreational reading in Willard Straight Hall, the University's community center, are available to students.

EXHIBITIONS

An art gallery is maintained in Willard Straight Hall, primarily for loan exhibitions of paintings, etchings, and sketches by eminent contemporary artists. The work of students is currently shown in the exhibition rooms of White Hall.

UNIVERSITY

PRIVILEGES The student of the College of Architecture is entitled to the use of all the University's general facilities and privileges. He may elect courses of study in any of the University's colleges. All the usual extra-curricular activities ordinarily to be found at a university are practiced at Cornell and are open to all students. They include musical and dramatic clubs, undergraduate publications, religious, social, and professional organizations, and a great variety of athletic sports both intramural and intercollegiate.

LECTURES

University endowments provide numerous public lectures in the course of every year, given by visiting scholars, scientists, and public men, both American and foreign. All such lectures are free to members of the University community.

THE STUDENT'S

HEALTH The University provides for the medical examination and advising of students, and maintains a clinic and an infirmary, with a regular staff of physicians, for the care of students in case of illness. All these provisions are fully described in the *General Information Number*.

TUITION

AND FEES Information concerning tuition, fees, living conditions, residential halls, means of self-help, etc., is given in the *General Information Number*. That publication gives various other items of informa-

tion applicable to all students, and it should be read in connection with this Announcement.

FELLOWSHIPS AND

SCHOLARSHIPS *Nine First-Year Tuition Scholarships* may be awarded to students registered for their first year in the College of Architecture. They allow one-half tuition for two terms of the first year. They are awarded primarily on the basis of financial need. In the discretion of the college and the President of the University, the holder of one of these first-year scholarships may be awarded the same aid in his second year provided the number of the scholarships does not at any time exceed nine.

Three Scholarships may be awarded annually to graduates of four-year schools, with any baccalaureate degree, who are not eligible for admission to the Graduate School. They allow one-half tuition a term for one year.

Fellowships of the American Academy in Rome are offered annually in Architecture, Landscape Architecture, Painting, and Sculpture, for award respectively to the winners of special competitions. They afford the fellows a residence of two years at the American Academy in Rome and the means of European travel. The yearly stipend amounts to two thousand dollars. Graduates of this college are eligible to compete for these fellowships. (Suspended for the duration of the War.)

The Robert James Eidlitz Fellowship, a graduate fellowship in Architecture valued at approximately \$1200, provides for exceptionally promising graduates of this college, who could not otherwise afford it, an opportunity to supplement, in such ways and in such places as may be best suited to their individual needs, the professional training which they have received.

The Shreve, Lamb and Harmon Professional Fellowship may be awarded annually by the Faculty of the College to a superior student on his completion of the requirements for graduation with the degree of Bachelor of Architecture. Its purpose is to provide better than usual conditions under which a young architect may make the transition from school work to practice. The holder of this fellowship becomes a member of the staff of Shreve, Lamb & Harmon, architects of New York City, for the term of one year or as may be otherwise arranged. During that year such work will be given him as is calculated to advance his special ability, aptitude, or interest, and he will be encouraged to study the office work as he did his school work. He will receive salary enough to enable him to live decently and comfortably in or near New York.

A University Fellowship of \$400 with free tuition may be awarded annually for graduate study in Architecture, Landscape Architecture, Regional and City Planning, or the Fine Arts.

One Graduate Scholarship giving free tuition in the Graduate School may be awarded annually for graduate study in Architecture, Landscape Architecture, Regional or City Planning, or the Fine Arts.

Tuition Scholarships. For students of the Graduate School there are provided thirty tuition scholarships. They entitle the holder to exemption from the payment of tuition fees, but not other fees, for the duration of the appointment. Application should be made to the professor or professors under whose

supervision the applicant is working, or to the office of the Graduate School. Awards are made in May of each year.

The Phi Kappa Phi Scholarship, established by the Cornell chapter of the society of Phi Kappa Phi, is open to graduate students in any field of study. Preference is given to members of the society. The scholarship carries free tuition in the Graduate School and a stipend of \$150. Applications for this scholarship should be filed in the office of the Graduate School not later than March 1.

For information concerning other scholarships that are open to students of this college in common with other students of the University, consult the *General Information Number*.

MEDALS AND

PRIZES

The Charles Goodwin Sands Memorial Medal, founded in 1900 by the family of Charles Goodwin Sands of the Class of 1890, may be awarded for work of exceptional merit done by any student working in any course given in the College of Architecture, whether or not the student is a candidate for one of the degrees administered by the College.

In the case of work in collaboration a medal may be awarded to each member of a team or to one or more members whose work is particularly outstanding.

Two grades of this medal, the silver and the bronze, are recognized. Winners of the Rome Prize in Architecture and Landscape Architecture are usually awarded the Silver Sands Medal.

The Clifton Beckwith Brown Memorial Medal was established in 1901 by John Harkness Brown in memory of his brother, Clifton Beckwith Brown of the Class of 1900, who was killed on the field of battle at San Juan Hill. A silver or bronze replica is awarded by the Faculty to that member of the graduating class who has attained the highest standing in Courses 113 and 114, or 151 and 152. The award is withheld if the standard is not considerably higher than that required for graduation.

The Student Medal of the American Institute of Architects is awarded to the member of the graduating class in architecture who has maintained the best record throughout the entire course.

Award for Excellence in Design, given by Central New York Chapter, A.I.A.

The Fuertes Memorial Prizes in Public Speaking, founded in 1912 by Charles H. Baker, a graduate of the School of Civil Engineering of the Class of 1886, are offered annually to members of the Junior and Senior classes in the Colleges of Engineering and Architecture for excellence in public speaking. There are three prizes of \$80, \$40, and \$20 respectively.

The Paul Dickinson Prize, established in 1927 by Miss Dorothea C. Dickinson of the Class of 1923 in memory of her father, is awarded to the student in the first-year class of the College of Architecture who has attained the highest record. This prize is not awarded unless the record is well above the average of first-year work in the college.

The Baird Prizes, one of \$25 and one of \$15, are awarded as first and second prizes in a special sketch problem competition in Advanced Design. The problem, lasting six days, is given during the early part of the second term and is of a decorative nature. The fund, established in 1927, was the gift

of Mrs. M. Z. Baird. The income (or, in the discretion of the Faculty of the College of Architecture, the principal) is to be used for the purposes of this college. It was designated as a prize fund by the Faculty in 1927.

The Edward Palmer York Memorial Prizes, one of \$25 and one of \$15, are awarded as first and second prizes in a special competition for students in Intermediate Design, Course 111 and Courses 150a and 150b. The problem, lasting approximately one week, is given in the second term.

The Robinson Prize, established in 1936 by C. D. Robinson, jr., of the Class of 1930, and amounting to \$25, may be awarded annually for superior advanced work in the History of Architecture.

The New York Society of Architects' Medal and Certificate is awarded annually for excellence in construction to that senior student who, in the opinion of this Faculty and the society's committee, is the leader of his class in construction as applied to architecture.

Alpha Alpha Gamma offers a prize of \$10 for the best group of photographs taken during the summer by a student of the college.

The College of Architecture in the Post-War Period

Graduates of this College have made indispensable contributions to the war effort in the design and construction of great factories to produce the implements of war, cantonments, airfields, warehouses, and housing for civilian workers; not only within the continental limits of the United States, but in every other continent and on the islands surrounding these continents. In many of the very largest construction enterprises of the Army and the Navy, the responsibility for planning has been entrusted to organizations of "Architect-Engineer," and in most instances the Architect has been chosen as leader and organizer of the group.

The qualities of leadership and intellectual discipline developed in the study of architecture are needed now in fullest measure. In the post-war reconstruction period there will be further opportunities for young men and women trained in the fields of *architecture*, *architectural engineering*, *industrial design*, *landscape architecture*, and *city and regional planning*. Our experience following the last war is ample demonstration of the tremendous demands which will be made upon the architectural and allied professions; and unless the training of young men and women is continued during this war and in the period immediately following the war, the shortages of manpower in these fields are bound to be acute. In recognition of these assumptions, the Faculty of the College of Architecture has formulated accelerated programs of instruction, aimed to meet the post-war situation.

The Government has wisely advised the youth of the country to continue their education in the fields of their choice until called to

service with the Armed Forces. Young men below the draft age of 18 years who elect to study architecture, may therefore do so until called to military service. Thus it is possible for a young man to embark upon his chosen career, in which a solid foundation may be laid before its interruption by a term of service in the Armed Forces. Upon the cessation of hostilities he may then return to the University to complete his studies for the degree.

Young women may now embark upon the study of architecture and allied subjects with the assurance that exceptional opportunities await them in these professions. The demand for women in industry and construction is steadily increasing. There is every reason, therefore, to believe that these wider opportunities will continue to be open to qualified women who prepare themselves now for post-war work. The accelerated programs are likewise designed to speed their preparation.

The Courses of Study Leading to Degrees

DESCRIBED AND

ANALYZED The following pages are devoted to a description and analysis of the several courses of study which the college offers—some of them in conjunction with other university divisions—looking to professional training in Architecture, Landscape Architecture, Regional and City Planning, or Fine Arts.

REQUIRED

WORK The requirement for each degree is the completion of a specified number of hours of work, exclusive of the University's requirements in Hygiene and in Military Science and Tactics, and Physical Education. The hour, as a unit of requirement, represents either one hour a week of lecture or recitation throughout the term, or two and one-half hours a week of work in laboratory or drafting room throughout the term.

ELECTIVE

STUDIES In each of the several courses of study leading to degrees generous credit is given for elective studies. The student's choice of electives is unrestricted except that he must include at least six hours in English or Advanced Language. Before he begins his elective study he is required to plan his entire elective program, and have it approved.

SELECT FIELDS

OF STUDY Qualified candidates for the degree of Bachelor of Architecture may enter upon a Select Field of Study for the period of the fourth and fifth years. These fields are defined respectively as Architectural Construction, Landscape Architecture, Regional and City Planning, and History of Architecture. A candidate for such study must first obtain the approval of the department in which his chosen field of study lies. The head of that department presumably will become the student's adviser and will aid him in his selection of courses.

Courses Leading to the Degree of Bachelor of Architecture

The courses of study which lead to the degree of Bachelor of Architecture are designed to afford both the technical and the cultural foundation for professional work. They recognize the dependence of the profession of architecture not only upon technical skill but also upon a cultivated taste and a training of the creative imagination. They emphasize the architect's obligation to society as well as to the client.

THE ACCELERATED EIGHT-TERM PROGRAM OF INSTRUCTION IN ARCHITECTURE

The accelerated program, providing three full length sixteen-week terms in each calendar year, begun in the summer term of 1942, will continue until further notice. All colleges of the University offer accelerated programs, so that students in the College of Architecture are afforded the opportunity of taking both required and elected courses of study in other colleges of the University, throughout the calendar year.

The courses of study normally extend over a period of five years. With the accelerated program the degree may be earned in eight terms covering a period of not less than two and two-thirds years. The program of study may be arranged on the basis of acceleration or on a normal basis, as the student may elect. It is fully realized that it may be inadvisable for certain students to accelerate because of health, finances, or other reasons.

The accelerated program consists of 138 academic hours, instead of 155 academic hours, the number required under the normal ten-term curriculum.

This curriculum, inaugurated on July 1, 1943, will continue in effect until further notice. Students who return subsequent to periods of service with the Armed Forces, with war industries and with related fields, will be permitted to complete their studies leading to the degree on the basis of this shortened curriculum.

Students who have taken courses of study in other colleges and universities under the auspices of the Army or Navy may be given credit for them upon submitting evidence of having successfully passed such courses.

Eight-Term Curriculum Leading to the Degree of Bachelor of Architecture

COURSES OF INSTRUCTION		HOURS	
		First Term	Second Term
FIRST & SECOND TERMS 34 HOURS	Mathematics, 5, 10, or 15.....	3	0
	Mathematics, 60 (a).....	0	3
	English, 2.....	3	3
	Physics, 3 (or Elective).....	3	3
	Descriptive Geometry, 510 (a) & (b).....	3	3
	Design 110, (a) & (b).....	5	5
THIRD & FOURTH TERMS 34 HOURS	Mathematics, 60 (b).....	3	0
	Mechanics, 210 (a).....	0	3
	History of Architecture, 410, 411.....	3	3
	Drawing and Painting, 310 (a) & (b).....	3	3
	Chemistry 102 or 104, (or Elective).....	3	3
	Design, 111 (a) & (b).....	5	5
FIFTH & SIXTH TERMS 36 HOURS	Mechanics, 210 (b).....	3	0
	Structural Design, 211.....	0	3
	Materials of Construction, 610 (a) & (b).....	3	3
	History of Architecture, 412.....	3	0
	Specifications and Mechanical Equipment, 611 (a).....	0	3
	Sculpture, 330.....	3	0
	Drawing (Elective).....	0	3
	Design, 112 (a) & (b).....	6	6
SEVENTH & EIGHTH TERMS 34 HOURS	Structural Design, 212.....	3	0
	Concrete, 280 A.....	3	0
	Testing Materials, 227.....	1	0
	History of Architecture, 413.....	0	3
	Design, 113.....	7	0
	Thesis, 114.....	0	8
	Electives.....	3	6

The University requirements in Hygiene, Military Science and Tactics, and Physical Training must be met in addition to the courses listed.

Ten-Term Curriculum Leading to the Degree of Bachelor of Architecture

The student is advised to take the regular course, which is outlined on the following page, unless he is fitted to enter one of the Select Fields of Study. In all the courses, both regular and select, the main body is the same and it contains more than the minimum of instruction required for professional registration by the National Council of Architectural Registration Boards and by New York State.

In the first column below are listed the subjects which are common to the regular course and to all the Select Fields of Study. In the second column are typical examples of three of the select fields.

COURSES COMMON TO ALL			TYPICAL EXAMPLES OF SELECT	
<i>Required of all candidates for the degree of Bachelor of Architecture</i>			FIELDS OF STUDY	
	Course	Hours	CONSTRUCTION (40 HOURS)	
Mathematics.....	60 (a) & (b)	6	Materials Laboratory, C.E. 226.....	3
Language.....	—*	6	Reinforced Concrete, C.E. 282.....	3
Architectural Design.....	110 (a) & (b)	8	Foundations, C.E. 281.....	3
	111 (a) & (b)	8	Engineering Law, C.E. 290.....	3
	112 (a) & (b)	12	Design, (Architectural Const.).....	8
	113 (a) & (b)	16	Free Electives.....	19
Theory of Structures.....	210 (a) & (b)	6	REGIONAL & CITY PLANNING (40 HOURS)	
	211-212	6	Principles of Regional and City Planning, 710.....	3
	C.E. 280	3	City Planning Practice, 711.....	3
	C.E. 227**	1	Housing, 713, or Regional Planning Prac- tice, 712.....	2 or 3
Drawing and Painting.....	310 (a) & (b)	6	Seminar in Regional and City Planning, 714.....	2
	311	3	Design, (Regional or City Planning)***.....	8
Sculpture.....	330	3	Free Electives.....	19
History.....	410	3	HISTORY (40 HOURS)	
	411	4	History of Art, 14.....	3
	412	4	Historic Ornament, 470.....	3
	413	3	Design, (Archaeological Problems).....	8
Graphics.....	510 (a) & (b)	6	Special Research.....	3
Applied Construction.....	610 (a) & (b)	6	Free Electives.....	21
	611	9		
Thesis.....	—	8		
Total hours.....		117		

*English or one foreign language must be included in elective studies.

**Those who select Construction may omit C.E. 227.

***Problems dealing with some phase of City Planning or Housing may be substituted for the regular problems in Architectural Design, 113, and for Thesis, 114.

The table on page 20 contains a list of all courses of instruction that are regularly required of candidates for the degree of Bachelor of Architecture.

A student who does not present for entrance at least 1 unit in History, 3 units in Foreign Language, 1 unit in Physics, 1 unit in Chemistry, and 4½ units in Mathematics must take, as electives, courses to make up the deficiency. If Solid Geometry is lacking it must be taken in the first term of the first year.

		HOURS	
		<i>First</i>	<i>Second</i>
COURSES OF INSTRUCTION			
FIRST YEAR 33 HOURS	Design, 110 (a) & (b).....	4	4
	Drawing and Painting, 310 (a) and (b).....	3	3
	Descriptive Geometry, 510 (a) & (b).....	3	3
	Mathematics, 60 (a).....	0	3
	History of Architecture, 410-411.....	3	4
	Electives.....	3	0
SECOND YEAR 30 HOURS	Design, 111 (a) & (b).....	4	4
	Mechanics, 210 (a).....	0	3
	Sculpture, 330.....	0	3
	History of Architecture, 412-413.....	4	3
	Mathematics, 60 (b).....	3	0
	Electives.....	3	3
THIRD YEAR 31 HOURS	Design, 112 (a) & (b).....	6	6
	Mechanics, 210 (b).....	3	0
	Structural Design, 211.....	0	3
	History of Fine Arts.....	3	0
	Materials, 610 (a) & (b).....	3	3
	Testing Materials, 227.....	0	1
FOURTH YEAR 32 HOURS	Electives.....	0	3
	Design, 113 (a).....	8	0
	Structural Design, 212.....	3	0
	Drawing and Painting, 311.....	0	3
	Applied Design, 611.....	0	9
	Concrete, 280 A.....	3	0
FIFTH YEAR 29 HOURS	Electives.....	3	3
	Design, Thesis 113-114.....	8	8
	Drawing and Painting, 311.....	3	0
		4	6

The University requirements in Hygiene and Military Science and Tactics and Physical Education must be met in addition to the courses listed.

Course Leading to the Degree of Bachelor of Landscape Architecture

The purpose of landscape architecture, as a fine art, is to prepare areas of land for human use and enjoyment and at the same time to preserve, enhance, and create beauty in the landscape. The range of professional practice must include a knowledge of all the materials, methods, and processes that are needed for the planning of a finished piece of work. Fundamental training in architecture, in engineering, in floriculture, and in horticulture is required for the landscape architect's equipment. His range should be even wider, for he needs to acquire facility of expression in the graphic arts, familiarity with the arts of painting and sculpture, and acquaintance with such diverse subjects as regional and city planning, history, civil government, economics, sociology, geology, and forestry.

The course leading to the degree of Bachelor of Landscape Architecture puts emphasis on a correlative study of Architecture as a help to the training of the student's aesthetic judgment and to his mastery of applied design in his own field. It recognizes that he will need a sympathetic knowledge of the architect's professional problems and point of view, a disciplined sense of the relation of buildings to landscape, and a ready skill in the treatment of their surroundings if he is to deal successfully with the larger problems involved in the development of land for varieties of human use. The student is encouraged also to make use of the courses in Regional and City Planning.

Attention is invited to the six-year course of study which leads to the degree of Bachelor of Architecture at the end of five years and to the degree of Master of Landscape Architecture at the end of one additional year. This course of study is recommended for those who expect to enter the profession of Landscape Architecture where a license to practice is desirable. In this manner the student of landscape architecture is given the basic educational requirements necessary to obtain a professional license for the practice of architecture.

The Faculty believes that the best program of instruction for those who aim to practice landscape architecture is the course of study leading to two degrees, Bachelor of Architecture and Master of Landscape Architecture. This course of study normally extends over a period of six years. With the accelerated program the two degrees may be earned within a shorter period, the exact time being dependent upon the capacity of the student to undertake an intensive schedule. A tentative program for the course of study leading to the two degrees is shown on page 23.

The table on page 22 contains a list of all the courses of instruction that are regularly required of candidates for the degree of Bachelor of Landscape Architecture.

A student who does not present for entrance at least 1 unit in History, 3 units in Foreign Language, 1 unit in Physics, 1 unit in Chemistry, and $4\frac{1}{2}$ units in Mathematics, must take, as electives, courses to make up the deficiency. If Solid Geometry is lacking it must be taken in the first term of the first year.

COURSES OF INSTRUCTION		HOURS	
		<i>First Term</i>	<i>Second Term</i>
FIRST YEAR	Design, 110 (a) & (b).....	4	4
31 HOURS	Drawing and Painting, 310 (a) & (b).....	3	3
	Descriptive Geometry, 510 (a) & (b).....	3	3
	History, 410, 411.....	3	4
	Mathematics, 60 (a).....	0	3
	Electives.....	3	0
SECOND YEAR	Design, 111 (a) & (b).....	4	4
33 HOURS	Mechanics, 210 (a).....	0	3
	Drawing and Painting, 311.....	0	3
	Sculpture, 330.....	3	0
	History, 412.....	4	0
	Mathematics, 60 (b).....	3	0
	Surveying, C.E. 210.....	0	3
	History, 413.....	0	3
	Electives.....	3	0
THIRD YEAR	Design, 150 (a) & (b).....	4	4
30 HOURS	Mechanics, 210 (b).....	3	0
	Plant Materials, 13.....	0	4
	Surveying, C.E. 212 and 212A.....	2	2
	Plant Materials, 12.....	0	2
	History, 450.....	0	3
	Electives.....	6	0
FOURTH YEAR	Design, 151 (a) & (b).....	8	8
32 HOURS	Planting Design, 650.....	2	2
	Highway Engineering, C.E. 265.....	3	0
	Plant Materials, 12.....	1	0
	Landscape Construction, 660.....	0	3
	Plant Materials, 113.....	2	0
	Electives.....	0	3
FIFTH YEAR	Design, Thesis, 151 (c), 152.....	8	8
29 HOURS	Planting Design, 651.....	2	0
	Landscape Construction, 660.....	3	0
	Electives.....	3	5

The University requirements in Hygiene and Military Science and Tactics and Physical Education must be met in addition to the courses listed.

Course Leading to the Degree of Bachelor of Architecture and Master of Landscape Architecture

A course of study is offered leading to the degree of Bachelor of Architecture at the end of four or five years and to that of Master of Landscape Architecture after one additional year. The student need not indicate his intention to pursue this course until the end of his second year, for his work up to that time is the same as that of the first two years of the course in architecture.

Experience has proved that a practitioner of either of these professions can profit from a knowledge of the theory and practice of the other. This course is designed to give the student the fundamental training needed for the practice of either profession. His choice can depend upon his own particular aptitude or preference. A graduate of this course who chooses to practice landscape architecture will have met the educational requirements for registration as an architect in states which have registration laws.

For the courses of instruction of the first two years see the tables on pages 18 and 20.* The succeeding courses are given below:

COURSES OF INSTRUCTION		HOURS	
		First Term	Second Term
THIRD YEAR 30 HOURS	Design, 112 (a).....	6	0
	Design, 150.....	0	4
	Mechanics, 210 (b).....	3	0
	Structural Design, 211.....	0	3
	Materials, 610 (a) & (b).....	3	3
	Testing Materials, C.E. 227.....	0	1
	Plant Materials, 13.....	0	4
	Surveying, C.E. 210.....	3	0
FOURTH YEAR 32 HOURS	Design, 113 (a).....	0	8
	Structural Design, 212.....	3	0
	Applied Design, 611.....	9	0
	Surveying, C.E. 212 and 212A.....	2	2
	History, 450.....	0	3
	Plant Materials, 113.....	2	0
	Electives.....	0	3
FIFTH YEAR 32 HOURS	Design, 113 (b).....	8	0
	Design, 151 (a).....	0	4
	Thesis, 114.....	0	8
	Concrete, C.E. 280 A.....	3	0
	Planting Design, 650.....	2	2
	Plant Materials, 12.....	0	2
	Highway Engineering, C.E. 265.....	3	0
	(Degree: B.Arch.; 159 hours including 12 elective hours.)		
SIXTH YEAR 32 HOURS	Design, 151 (b) & (c).....	8	4
	Thesis, 152.....	0	8
	Planting Design, 651.....	2	0
	Plant Materials, 12.....	1	0
	Landscape Construction, 660.....	3	0
	Electives.....	3	3
	(Degree: M.L.A.; 191 hours including 18 elective hours.)		

*Four-Year and Five-Year Courses in Architecture.

Regional and City Planning and Housing

City planning may be said to be the art and science of so shaping a man's physical environment as best to serve the general welfare in comfort, convenience, health, and aesthetics. Regional planning implies the application of the same principles to the larger problems of county, state, region, and nation. Among the important needs of modern civilization is an intelligent guidance of both urban and rural development. Ugliness, inconvenience, menaces to public health, and serious economic waste are the results of haphazard growth in city and country.

Instruction in Regional and City Planning and in Housing is given by the Colleges of Architecture and Engineering in cooperation. The courses of study are described on pages 35-37. They are open to students in Architecture, Landscape Architecture, Engineering, Government, Economics, Sociology, Geography, Agricultural Economics, and to upperclassmen otherwise prepared to profit by an understanding of the problems that they deal with.

Students in the College of Architecture may supplement the lectures and seminars with projects in design dealing with specific problems in city planning or in housing. Such projects may be substituted, with the permission of the Faculty, for regularly scheduled problems in Advanced Design in either Architecture or Landscape Architecture. Any qualified student in the College of Architecture may also take a problem in planning or in housing as the subject of his thesis.

MASTER IN REGIONAL PLANNING

The degree, Master in Regional Planning, is offered to students registered in the Graduate School who major in Regional and City Planning. Students with a background in architecture, landscape architecture, engineering, economics, sociology, geography, government, or agricultural economics may be accepted as candidates for the degree of Master in Regional Planning. Those who have had substantial academic work in planning as undergraduates, equivalent to the courses given in the Department of Regional and City Planning at Cornell, will ordinarily earn the master's degree in one year. Those who have not had this preparation will normally require two years to gain the degree. Each student majors in Regional and City Planning with special emphasis on the particular relationship the field of study, which he pursued as an undergraduate, has to planning. Thus, a graduate in architecture will approach planning from this specialized background while acquiring a full knowledge of the manner in which the architect, the landscape architect, the public administrator, the economist, the sociologist, the geographer, the lawyer, and those in other related professions, fit into the planning program.

Many related courses given in other departments of the University are open to students.

Course Leading to the Degrees of Bachelor of Arts and Master of Fine Arts

The College of Arts and Sciences, the College of Architecture, and the Graduate School co-operate in offering a course of study for students of the Fine Arts. This course leads, through six years, to (1) the degree of Bachelor of Arts and (2) the degree of Master of Fine Arts with a major in the history and practice of painting and sculpture.

New students electing this six-year course of study will register in the College of Arts and Sciences.

The first four years of the course offer a co-ordinated curriculum in the History of Art and in the theory and practice of Drawing, Painting, and Sculpture, designed to give a knowledge and understanding of the Fine Arts in a broad educational program and to provide a basic training for those who wish to pursue further studies in these fields.

The degree of Bachelor of Arts will be awarded after the successful completion of the first four years. The student may then, after registering in the Graduate School, proceed with two additional years of intensive study of the practice of painting or sculpture, designed to fit him for a professional career in the field of his choice. The degree of Master of Fine Arts will be awarded upon the successful completion of the work in the Graduate School.

Candidates for the degree of Bachelor of Fine Arts will continue through ten terms of instruction. The course of study may be arranged on the basis of an accelerated program or on a normal basis, as may be elected. On the basis of the accelerated program the requirements for the degree may be satisfied in three and one-third years.

Students electing the course of study leading to the degrees of Bachelor of Arts and Master of Fine Arts may accelerate the program or not, as they wish. On the basis of the accelerated program the course of study leading to two degrees may be completed in four years.

[continued on next page]

A list of all the courses of instruction that are required in this six-year course of study is given in the following table. The sequence of courses there given, term by term, is suggested, but a student may, if necessary, take them in a different order. For descriptions of some of them, not given in these pages, consult the *Announcement of the College of Arts and Sciences*.

COURSES OF INSTRUCTION		HOURS	
		First Term	Second Term
FIRST YEAR	English, 2	3	3
30 HOURS	History	3	3
	Language	3	3
	History of Painting and Sculpture, 1a and 1b	3	3
	Drawing and Painting, 309 (a) and (b)	3	3
SECOND YEAR	Science	3	3
30 HOURS	Language	3	3
	History of Greek Sculpture, 2	3	0
	Art of the Roman Empire, 3	0	3
	Romanesque and Gothic Sculpture, 28a, Gothic Painting, 28b, or a course in Literature	3	3
	Composition, 300	3	3
THIRD YEAR	Language	3	0
30 HOURS	Aesthetics, 8a and 8b	3	3
	Methods and Materials of the Art of Painting, 9	3	3
	Florentine and Venetian Painting, 6	0	3
	History of Architecture, 10a and 10b	3	3
	Drawing and Painting, 311	3	3
	<i>Sculptors to take Sculpture, 330, 3 hours, instead of the second term of Drawing and Painting, 311.</i>		
FOURTH YEAR	Advanced Readings in Aesthetics, 19	0	3
30 HOURS	History of Northern Painting, 26	3	3
(TOTAL, 4 YEARS, 120 HOURS)	Drawing and Painting, 314	3	3
	Composition, 304	3	3
	Electives	6	3
	<i>Sculptors to take Sculpture, 331, 6 hours, instead of Drawing and Painting, 314, and to do their Composition as Sculpture.</i>		
FIFTH YEAR	Drawing and Painting, 315	6	6
34 HOURS	Composition, 305	5	5
	Electives	6	6
	<i>Sculptors to take Sculpture, 335, 12 hours, instead of Drawing and Painting, 315, and to do their Composition as Sculpture.</i>		
SIXTH YEAR	Drawing and Painting, 316	6	0
34 HOURS	Composition, 306	5	0
(TOTAL, 6 YEARS, 188 HOURS)	Electives	6	5
	Thesis	0	12
	<i>Sculptors to take Sculpture, 336, 6 hours, instead of Drawing and Painting, 316, and to do their Composition as Sculpture.</i>		

The University requirements in Hygiene and Military Science and Tactics and Physical Education must be met in addition to the courses listed.

Course Leading to the Degree of Bachelor of Fine Arts with Teacher Training

A course of study is offered leading to the degree of Bachelor of Fine Arts, designed to train students to become teachers and supervisors of art in the public schools. This course is administered jointly by the School of Education and the Department of Painting and Sculpture of the College of Architecture. The Faculties believe that training over a period of five years is necessary for the proper education of teachers of art in order that purely technical training may be supplemented by courses in the humanities. Graduates of the course will be granted a certificate by the New York State Department of Education without further examination.

COURSES OF INSTRUCTION		HOURS	
		<i>First Term</i>	<i>Second Term</i>
FIRST YEAR 30 HOURS	English.....	3	3
	History of Painting and Sculpture, 1a and 1b.....	3	3
	Descriptive Geometry, 510.....	3	3
	Drawing and Painting, 309 (a) and (b).....	3	3
	Science—Elective.....	3	3
SECOND YEAR 30 HOURS	Human Growth and Development.....	3	3
	Social Science A and B.....	3	3
	Composition, 300.....	3	3
	Costume Design and Crafts, 800.....	3	0
	History of Architecture, 10a and 10b.....	3	3
THIRD YEAR 34 HOURS	Public Speaking, 45.....	0	3
	Education, 100.....	3	0
	Education, 120.....	0	3
	Drawing and Painting, 311.....	3	3
	Composition, 301.....	3	3
FOURTH YEAR 30 HOURS	Interior Design, 120.....	2	2
	Methods and Materials of the Art of Painting, 9.....	3	3
	Electives.....	3	3
	Art of Teaching.....	3	3
	Drawing and Painting, 314.....	6	6
FIFTH YEAR 31 HOURS	Composition, 304.....	4	4
	Graphic Arts, 325.....	2	0
	Elective.....	0	2
	Art of Teaching.....	2	2
	Education, 220.....	0	2
	Drawing and Painting, 315.....	6	0
	Composition, 305.....	5	0
	Thesis.....	0	8
	Electives.....	3	3

The University requirements in Hygiene and Military Science and Tactics and Physical Education must be met in addition to the courses listed.

The Courses of Instruction

SUBJECT

MATTER The preceding analysis of the several courses of study leading to degrees showed them to consist of individual *courses of instruction*. All these individual courses are described in the list which now follows. Here they are arranged under heads appropriate to their subject matter. They are all elements of the regular work of the College of Architecture. In most of them the instruction is given by members of the Faculty of Architecture. In the others—those which come toward the end of the list—the instruction is given by members of other faculties. That is characteristic of Cornell University's organization: instruction given in one department is not as a rule duplicated in another. Accordingly the instruction in Mathematics, English, Physics, and Chemistry is given in the College of Arts and Sciences, that relating to Plant Materials in the College of Agriculture, and that of certain other courses in the School of Civil Engineering. All this instruction, however it may appear to be dispersed, is nevertheless coordinated with the work of the College of Architecture.

[Courses of instruction open to students not registered in the College of Architecture are marked with an asterisk (*) preceding the title of the course. The enrollment in any course is limited.]

The time and place of each course of study will be given in a separate memorandum at the beginning of each term.

THEORY OF ARCHITECTURE

This work is intended as a supplement to Architectural and Landscape Design. Here the student gains an introduction to the critical literature of Architecture and Landscape Architecture and to the various theoretical principles of design as expressed in historic and contemporary buildings.

012. *Advanced Theory Seminar*. One term. Credit one hour. Members of the staff in Architecture. Open to students in Advanced Architectural Design and to graduates. Students planning to register for this course must obtain permission from the Dean before registration day. Room and hour to be announced.

014. *Advanced Theory Seminar*. One term. Credit two hours. Prerequisite, Course 113 or 150b. Members of the staff in Architecture. Registration limited. Study of the methods and aims of contemporary architecture and its relation to various historical precedents. Room and hour to be announced.

070. *Landscape Architecture Seminar*. One term. Credit one hour. Open to upperclassmen and graduates. By appointment.

DESIGN

Instruction in Architectural and Landscape Design is given by the Design staff—Messrs. SEYMOUR, BURNHAM, MONTILLON, HARTELL, and MACKESY—and consists of individual criticism over the drafting board. By appointment.

ARCHITECTURAL DESIGN

Among the courses leading to the degree of Bachelor of Architecture, design is the basic course and has the greatest number of hours allotted to it. It is in this sequence of courses that the student is expected to demonstrate his ability to solve specific problems in such a manner that the final result is a structure efficiently planned, solidly constructed, aesthetically satisfying, and in harmony with its surroundings. All other courses leading to this degree are considered as contributing to these objectives.

110 (a) and (b). *Elementary Design*. Two terms a year. Credit eight hours or ten hours (eight-term curriculum) on completion of the course. The first principles of architectural design and construction with drawings in pencil and ink, rendered in wash and color.

111 (a) and (b). *Intermediate Design*. Two terms a year. Credit eight hours or ten hours (eight-term curriculum) on completion of the course. Prerequisite, Course 110 (a) and (b).

112 (a) and (b). *Junior Design*. Two terms a year. Credit twelve hours on completion of the course. Prerequisite, Course 111 (a) and (b).

113 (a) and (b). *Advanced Design*. Two terms a year. Credit sixteen hours or seven hours (eight-term curriculum) on completion of the course. Prerequisite, Course 112 (a) and (b).

114. *Thesis in Architecture*. Credit eight hours. Prerequisite, Course 611 and two terms of Course 113.

120. *Interior Decoration*. Two terms a year. Credit two hours a term. Prerequisite, Course 309 (a) and (b).

LANDSCAPE DESIGN

Among the courses leading to the degree of Bachelor of Landscape Architecture, design is the basic course and all other courses are considered as contributing to it. The student must develop an appreciation of the beauty which can be created or preserved by the nature and contours of the ground and by water in its relation to the ground as well as by the form and character of growing vegetation. He must learn how to use those elements of composition with due regard for their aesthetic and practical values. He is expected also to acquire sufficient knowledge of architectural design to create proper settings for structures. Land and site-planning are important phases in the study of landscape design.

150 (a) and (b). *Intermediate Landscape Design*. Two terms a year. Credit eight hours on completion of the course. Prerequisite, Course 111 (a) and (b). Half of the work of this course is identical with that of course 111 (a) and (b). One lecture discussion period each week on the theory of landscape design. Hour to be arranged.

151 (a), (b) and (c). *Advanced Landscape Design*. Throughout three terms.

Credit twenty-four hours on completion of the course. Prerequisite, Course 150 (a) and (b).

152. *Thesis in Landscape Architecture*. Credit eight hours. Prerequisite, Course 151 (a), (b) and (c).

RENDERING

170. *Architectural Rendering*. One term. Credit two hours. Prerequisite, Course 110. By appointment. Registration limited. Students shall obtain permission before registering for this course.

THEORY OF CONSTRUCTION

These courses (210-211-212), together with Concrete Construction (C.E. 280, described on page 41) and Testing Materials (C.E. 227, page 40) deal in the beginning with the theories and progressively more with the practice of Structural Design.

210 (a) and (b). *Mechanics of Materials*. Two terms. Credit three hours each term. Prerequisite, Mathematics 60 (a) and (b). One term: a brief study of the principles of analytic and graphic statics. Recitations. Second term: the effects of loading in producing stress and deformation in beams, columns, and masonry. Two recitations and one computing period.

211-212. *Structural Design*. Two terms. Credit three hours each term. Prerequisite, Course 210. Lectures, computations, and reports. Graphic statics. Detailed design of steel skeleton frame, roof truss, plate girder, miscellaneous details; heavy timber building frame, truss details; masonry arch; retaining wall. (First term, 211, is a prerequisite for Concrete Construction, C.E. 280, and for Applied Design 611.)

DRAWING: PAINTING: SCULPTURE

Instruction in Drawing, Painting, and Sculpture is given by the Fine Arts staff: Messrs. MIDJO, HARTELL, WASHBURN, MAHONEY, and DALY.

Work in all branches of the Fine Arts is offered and may be taken by any student in the University.

Beginning students not registered in the College of Architecture must take Elementary Drawing and Painting, 309 (a) and (b).

Students not registered in the College of Architecture are required to pay a fee of \$1 per credit hour.

DRAWING AND PAINTING

The courses in this sequence are an introduction to design, representation, and color. The methods of depicting form, texture, weight, and color are studied, in the various media, through still-life, landscape materials, and the study of the human figure.

One credit hour a term is given for each two and one-half hour studio period. In courses offering a choice of credit hours, the same must be arranged upon registration in consultation with the instructor in charge of the course.

309 (a) and (b). *Elementary Drawing and Painting*. Two terms. Credit three hours a term. The beginning course for all students in the University except architects and landscape architects. An introduction to the principles and

methods of decorative and pictorial design and of representational drawing and painting, using various media. The principles of color harmony and of the pictorial use of color. Discussion of historical and contemporary examples, lectures, readings, examinations, and analytical and creative exercises in the studio.

310 (a) and (b). *Elementary Drawing and Painting*. Two terms a year. Credit three hours a term. Open only to architects and landscape architects. An introduction to pictorial design and representation. The second term includes the study of the principles and the pictorial use of color.

311. **Intermediate Drawing and Painting*. Two terms. Credit three to six hours each term as arranged.

314. **Advanced Drawing and Painting*. Two terms. Credit four to ten hours a term as arranged.

315. *Fifth Year Drawing and Painting*. Two terms. Credit six hours a term. Hours to be arranged.

316. *Sixth Year Drawing and Painting*. One term. Credit six hours. Hours to be arranged.

324. *Painting Technics*. One or two terms. Credit three hours a term. Prerequisite, Course 9. Studio work in egg-tempera, fresco, and the historic methods of painting in oils.

COMPOSITION

Composition may be studied both in pictorial art and in sculpture. Elementary Composition 300 usually follows Elementary Drawing and Painting 309 (a) and (b).

In pictorial art the main emphasis is upon the execution of original pictures in the various media and problems in advertising and industrial design. A special study is made of the design of wall paintings in definite architectural settings.

In sculptural composition problems include the execution of works in the round and in bas-relief, modeled in clay and cut directly in plaster, wood, or stone. The design of sculpture for specific architectural settings is emphasized.

In courses offering a choice of credit hours, these must be arranged upon registration.

300. **Elementary Composition*. Credit three hours a term. Prerequisite, Course 309 (a) and (b) or the equivalent.

301. **Intermediate Composition*. Two terms. Credit three to six hours a term as arranged.

304. **Advanced Composition*. Throughout three terms. Credit four to six hours a term as arranged. By appointment.

305. **Fifth Year Composition*. Two terms a year. Credit six hours each term.

306. **Sixth Year Composition*. One term. Credit six hours.

SCULPTURE

The basic characteristics of sculptural form and composition are studied through technical and creative exercises, involving abstract and architectural human and animal materials.

Works are designed and executed in terra cotta, plaster, wood, and stone; the methods of modeling and of direct carving are both studied.

In courses offering a choice of credit hours, these must be arranged upon registration in consultation with the instructor in charge of the course.

330. **Elementary Sculpture*. Two terms. Credit two to four hours a term, as arranged. Students in Architecture and Landscape Architecture take three hours for one term. Prerequisite, Course 310 (a) and (b).

331. **Intermediate Sculpture*. Two terms. Credit three to six hours a term as arranged.

333. **Advanced Sculpture*. Two terms. Credit four to ten hours a term as arranged.

335. *Fifth Year Sculpture*. Two terms. Credit six hours a term.

336. *Sixth Year Sculpture*. One term. Credit six hours.

GRAPHIC ARTS

325. *Graphic Arts*. Two terms. Credit two to four hours a term. Prerequisites, Course 310 (a) and (b) or 309 (a) and (b) and permission of instructor. Study and practice of the methods of etching, block printing, and lithography in the first term; silk-screen printing and the methods of commercial reproduction in the second term.

THESIS

350. **Thesis*. Satisfactory completion of a thesis is required of candidates for either the graduate or the undergraduate degrees in the Fine Arts. See page 9.

COSTUME DESIGN AND CRAFTS

800. *Costume Design and Crafts*. One term. Credit three hours.

HISTORY OF THE FINE ARTS

The several courses in History offered in the College of Architecture are primarily in the form of lectures with such supplementary requirements as seem advisable. Chronological sequence is followed with such varying emphasis upon the aesthetic, social, political, and economic considerations as may be required. Greater stress is laid upon purely technical considerations in the courses in the History of Architecture and Landscape Architecture than in the courses in Painting and Sculpture. The former group are designed primarily as a part of the professional training of students in the College of Architecture, although these courses are presented in such a manner that they may be elected for study by non-professional students. Courses in the History of Painting and Sculpture, on the other hand, are designed to provide a cultural study, and hence have a wider scope of interest in relation to the University at large.

HISTORY OF ARCHITECTURE

10 a. **History of Architecture: Ancient and Medieval*. One term. Credit three hours.

10 b. **History of Architecture: Renaissance and Modern.* One term. Credit three hours.

410. **Ancient Architecture.* One term. Credit three hours. Lectures and examinations. Egyptian, Western Asiatic, Greek, Roman, and Early Christian architecture.

411. **Mediaeval Architecture.* One term. Credit four hours. Three lectures and one additional hour to be arranged. Byzantine, Mohammedan, Romanesque, and Gothic Architecture. Lectures, seminars, and examinations.

412. **Renaissance Architecture.* One term. Credit four hours. Three lectures and one additional hour to be arranged. Architecture of the Renaissance in the principal European countries. Lectures, seminars, and examinations.

413. **American and Contemporary Architecture.* One term. Credit three hours. Lectures, seminars, and examinations. The architecture of the United States in the Seventeenth and Eighteenth centuries and of Europe and the United States from 1800 to the present.

450. **History of Landscape Architecture.* One term. Credit three hours. Lectures, assigned readings, sketches, and examinations.

470. **Historic Ornament.* One term. Credit three hours. Prerequisite, a course in history of architecture. Hours as arranged.

471. **Historical Seminar in Architecture.* One term. Credit two hours. 472. Second term. Credit two hours. Investigation of assigned topics in the history of architecture. Open to graduate students and to upperclassmen by permission. By appointment.

HISTORY OF PAINTING AND SCULPTURE

1 a. **Ancient and Medieval Painting and Sculpture.* One term. Credit three hours. This course is a prerequisite for all other courses in the history of painting and sculpture. All students must register for this course on registration day.

1 b. **Renaissance and Modern Painting and Sculpture.* One term. Credit three hours. All students must register for this course on registration day. A continuation of 1 a, which is a prerequisite. Development of painting and sculpture in major European countries from 1400 in the case of Italy, and from 1500 in the case of other countries, to the present day.

2. *History of Greek Sculpture.* One term. Credit three hours.

3. *Art of the Roman Empire.* One term. Credit three hours.

After a sketch of Etruscan and Republican art, the evolution of Hellenistic sculpture and painting will be traced through the Empire to the sixth century. A few lectures will be devoted to the minor arts.

4. *Primitive Art: The Art of Early Societies.* One term. Credit three hours.

The study of the relation between culture and art in early societies where sculpture and painting were indispensable elements in everyday life; the shaping and use of art forms to satisfy the group needs of the cultures of Old Stone Age Europe, ancient Egypt and Mesopotamia, and Central and South America (Mayan, Aztec, and Incan cultures), with some consideration of the influence of these primitive and archaic forms on modern art.

5. *Renaissance and Modern Sculpture.* One term. Credit three hours.

This course includes a study of the evolution of sculpture in Europe and

America, and of the changes in taste from the fifteenth century to the present day, by means of analyses of the works of representative sculptors and the use, where necessary, of parallels in painting and architecture.

6. *Italian Painting of the Renaissance*. One term. Credit three hours.

The course treats of the history of painting in the principal centers of Italy. Among the major figures whose lives and works will be studied are Giotto, Fra Angelico, Massaccio, Botticelli, the Bellinis, Leonardo, Giorgione, Titian, Michelangelo, Tintoretto.

8. *Introduction to Chinese and Japanese Art*. One term. Credit three hours.

Chinese art, in its most important media, is traced from the Bronze Age to the Manchu dynasty. Some account is taken of the influences of Buddhist India and the West. The art of Japan is viewed both in its relation to that of China and in its more independent aspects.

9. *Methods and Materials of the Art of Painting*. Two terms. Credit three hours a term. One laboratory period to be arranged. A survey of the styles of painting as they have been affected by the materials and techniques of the various epochs. Lectures and readings are supplemented by studio work in which the student executes designs in mosaic, egg tempera, fresco, and the various methods of oil painting. Previous experience in drawing is not required.

11. *American Painting*. One term. Credit three hours. Painting in the United States from colonial days to the present.

26 a. *Seventeenth and Eighteenth Century Painting*. One term. Credit three hours. Given in alternate years. Painting of the Baroque and Rococo periods in the major European countries.

26 b. *Modern Painting*. One term. Credit three hours. Given in alternate years. Nineteenth century painting in France, England, and Germany, and the major movements in twentieth century painting.

28 a. *Romanesque and Gothic Sculpture*. One term. Credit three hours. Given in alternate years. Sculpture in the major European countries from 1000 A.D. through the Gothic period.

28 b. *Gothic Painting*. One term. Credit three hours. Given in alternate years. Painting in Italy in the fourteenth century, and in France, Germany, and the Netherlands in the fourteenth and fifteenth centuries.

29, 30. *Historical Seminar of Painting and Sculpture*. Two terms a year. Credit two hours a term. Registration limited. Open to graduate students and qualified undergraduates. Ten hours of the History of Art or their equivalent are prerequisite. By appointment.

GRAPHICS

510 (a) and (b). **Descriptive Geometry*. Two terms a year. Credit three hours a term. Lectures and drawing. First term, the fundamental problems of the subject, involving points, lines, planes, and plane solids. Second term, plane and space curves, curved surfaces, tangencies, and intersections. A study of shades and shadows as a direct application of descriptive geometry, with light from any source, followed by the conventional constructions for architectural forms, occupies about the last half of the term.

APPLIED CONSTRUCTION

The following courses, two in Architecture and three in Landscape Architecture, are designed to correlate all the courses previously taken by the student. Behind it is the thought that office practice requires drawings, specifications, and contracts developed from a thorough knowledge of the client and his problem as well as the fact that working drawings, specifications, and contracts must be thoroughly related and checked one against the other. Problems are given, to be solved just as they should be solved in an office.

610 (a) and (b). *Building Materials and Construction*. Two terms a year. Credit three hours a term. Prerequisite, four terms in the College of Architecture or the equivalent. A brief study of structural materials and details of construction with particular reference to concrete, masonry, ordinary construction, slow-burning construction, fireproof construction. Lectures and discussions.

611. *Applied Design*. One term. Credit nine hours. Prerequisite, Courses 211, 610, and one term of 113. Criticisms by appointment. The course consists of the design of structures, demonstrated by preliminary sketches, small-scale and large-scale working drawings, structural and mechanical reports. The drafting room work is parallel with discussions on mechanical equipment, specifications, contracts, and general office practice.

611 (a). *Specifications and Mechanical Equipment*. Two terms a year. Credit three hours a term. This course of study takes the place of the lecture portion of the present nine-hour Applied Design course. The remainder of that course will be distributed through Design 112 and 113.

612. *Office Practice*. Two terms a year. Credit one hour a term. A seminar devoted to discussion of professional ethics and other problems arising in the day to day procedures in office practice. Registration limited and by permission only.

650. **Planting Design*. Two terms a year. Credit two hours each term. Prerequisite, Plant Materials 8. The first term of this course, given during the second term of the school year, is open to election by special permission. Lectures, sketching, drafting, and field trips.

651. *Advanced Planting Design*. One term. Credit two hours. Prerequisite, Planting Design 650 and permission to register. Lectures, assigned reading, drafting, and field trips.

660. *Landscape Construction*. Two terms. Credit three hours a term. Prerequisite, Mechanics 210 (a) and (b), C.E. 212, and C.E. 265. One term: problems involving the application of the principles of mechanics to the design of structures of a simpler sort, such as post and lintel construction, short-span truss, short-span arch, a small bridge, simpler types of low dams, and retaining walls, foundations, and culverts. Lectures, problems, and reports. Second term: problems in earthwork, grading, and location plans, sections, profiles, and cross sections, working drawings. Lecture and drawing periods. Hours to be arranged.

REGIONAL AND CITY PLANNING: HOUSING

Instruction in Regional and City Planning is offered by the Colleges of Architecture and Engineering in cooperation. The work aims to give the stu-

dent an appreciation of the special problems of large-scale planning. Study is made of past and possible future achievement in the planned and controlled development of public and private properties as a necessary basis for better living. The diversity and difficulty of the problems of large-scale planning are emphasized, as well as the fact that the solution of these problems lies in the united efforts of many varied groups. In the courses open to students of all colleges of the University the material is presented in such a manner that technical knowledge is unnecessary. Courses are also offered, however, which permit a technically trained student, graduate or undergraduate, to further his knowledge and abilities in the field of his special interest.

710. **Principles of Regional and City Planning.* One term. Credit three hours. Registration limited to 50. Open to graduates and upperclassmen in all colleges of the University. The history of the planning of communities, including provisions for housing from ancient times to the present. A review of the basic influences in the development of cities. A general view of the theory and accepted practice of city and regional planning, including a study of the social, economic, and legal phases. Lectures, assigned reading, and examinations. Occasional lectures may be given by members of other faculties and by outside lecturers invited because of their special experience and skill in certain phases of planning.

711. **City Planning Practice.* One term. Credit three hours. Prerequisite, Course 710. The procedures and techniques of gathering and analysing data for municipal planning studies. The selection and integration of data for use in planning. Practical application of the theories of city planning. Office practice. Lectures, assigned reading, reports.

712. **Regional Planning Practice.* One term. Credit three hours. Prerequisite, Course 710. Open to graduates and upperclassmen in all colleges of the University. A study of the principles involved in county, regional, state, and national planning. Includes discussion of following factors involved: land use, water resources, recreation, transportation, public services, and public works. Lectures, assigned reading, reports, and examinations. Occasional lectures may be given by members of other faculties and outside lecturers. Hours to be arranged.

713. **Housing.* One term. Credit two hours. Registration limited. Prerequisite, Course 710. An introduction to the theory and standards of housing practice through analysis and comparison of various existing examples, considering the social, economic, and technical sides of the work. Lectures, assigned reading, and reports. Students in the College of Architecture may take one or more design programs having some phase of housing as subject. These programs will be substituted for a regular problem in Course 113 or 151 and values, as earned, will be awarded in those courses.

714. **Seminar in Regional and City Planning.* Two terms a year. Credit one hour each term. Investigation of assigned topics on particular aspects of the subject, with emphasis on either urban or regional planning. Registration limited. Open to students in all colleges of the University, by permission. This course should accompany or follow Course 710. Hours to be arranged.

715. **Seminar in Park Planning.* One term. Credit two hours. Specific problems relating to the design of city, state, and national parks, with a

study of examples. Registration limited. Open to upperclassmen and graduates in the Colleges of Architecture and Engineering and others by special permission.

716. **Seminar in Parkway, Expressway, and Highway Planning.* One term. Credit two hours. Specific problems relating to the design of the modern parkway, expressway, and highway with study of examples. Registration limited. Open to upperclassmen and graduates in the Colleges of Architecture and Engineering.

717. *Zoning Principles and Practice.* One term. Credit two hours. Prerequisite, Course 710. Technical and legal aspects of drafting and administering zoning regulations. Open to graduates and upperclassmen in all colleges of the University.

INDUSTRIAL DESIGN

Instruction in Industrial Design is offered to give the student a general knowledge of the special problems involved in this increasingly important field of endeavor. While an architectural training is generally considered the best background of study for those who wish to specialize in the professional field of industrial design, it is thought desirable to open these courses of study to students in other colleges of the University. The importance of the aesthetic factors in design in commerce and industry has developed to the point where there is need for considering the broad underlying principles involved in shaping the machines and the implements used in our daily lives, that they may be more pleasing in appearance as well as more efficient. Students who desire to obtain a broader training in the field of industrial design may take as electives certain related courses of study in other colleges of the University, in particular in the College of Engineering, those courses of study having to do with materials processing. Special permission may be given to students in Architecture, registered in or who have already passed Course 841, to substitute problems in industrial design for certain architectural problems in Design 112 and 113.

841. *Industrial Design.* One term. Credit two hours. Lectures and discussion. An introduction to the field of industrial design covering the fundamental principles and trends. Sketches and assigned reading. Place of meeting and hours to be arranged. Open to upperclassmen and graduates in all colleges of the University. Registration limited and by permission.

842. *Industrial Design.* One term. Credit two hours. Prerequisite, Course 841. A continuation of Course 841 with practice in creative design under criticism. One lecture and one laboratory period each week.

MATHEMATICS

The courses under this head are given in the Department of Mathematics in the College of Arts and Sciences.

A make-up examination in Mathematics may be taken only with that department's permission in any case, and the permit must be obtained from the department at least one week before the time set for the examination.

10. *College Algebra.* Mathematics. Credit three hours.

15. *Plane Trigonometry.* Mathematics. Credit three hours except for students offering Trigonometry for entrance.

60 (a) and (b). *Analytic Geometry and Calculus*. Mathematics. Primarily for students of the College of Architecture. Two terms a year. Credit three hours a term. Prerequisites, Mathematics 5 and 15 or their equivalent and a reasonable preparation in algebra to be shown either (a) by credit for Mathematics 10 or its equivalent, or (b) by passing satisfactorily an optional qualifying examination in elementary and intermediate algebra to be offered by the Department of Mathematics at the beginning of each term.

ENGLISH

The course listed under this head is open to Freshmen who have satisfied the entrance requirements in this subject. It is a training in reading and writing. All who elect it must apply for assignment to sections, in the first term at Barton Hall, in the second term at Goldwin Smith C.

2. *Introductory Course in Composition and Literature*. Two terms a year. Credit three hours a term. May not be entered the second term.

2 a. *Introductory Course in Composition and Literature*. A repetition of the first term of English 2.

PHYSICS

Introductory Physics. Physics 3. Credit three hours. Demonstration lectures. One laboratory period a week, as arranged. Laboratory fee, \$5. One recitation period a week, as arranged, required only of students who do not offer entrance physics.

Mechanics, properties of matter, sound, and heat.

Introductory Physics. Physics 4. Credit three hours. A continuation of course 3. Prerequisite, course 3 or entrance physics. Laboratory fee, \$5.

Electricity, magnetism, and light.

CHEMISTRY

General Chemistry. Chemistry 102. Two terms a year. Credit three hours a term. First term prerequisite to second. Open only to those students who do not offer entrance chemistry. Deposit, \$11 each term. One lecture, one recitation, and one laboratory period each week.

The fundamental laws and theories of chemistry and the properties of the more common elements and their compounds.

General Chemistry. Chemistry 104. Two terms a year. Credit three hours a term. First term prerequisite to second. Open to those students who offer entrance chemistry. Deposit, \$11 each term. One lecture, one recitation, and one laboratory period each week.

The fundamental laws and theories of chemistry and the properties of the more common elements and their compounds.

EDUCATION

For detailed information under this head, consult the *Announcement of the School of Education*.

100. *Educational Psychology*. One term. Credit three hours. Not open to freshmen.

120. *Social Foundations of Education*. One term. Credit three hours.

Art of Teaching. Credit and hours as arranged.

220. *Philosophy of Education*. One term. Credit two hours. Time and place of meeting to be arranged.

A, B. *Human Growth and Development*. Two terms a year. Not open to freshmen. Credit three hours a term. Course A is prerequisite to Course B. Prerequisite, a laboratory science, preferably general biology or introductory zoology. (In cooperation with the School of Education.)

The aim of this course is to integrate information about structural, physiological, behavioral, and intellectual aspects of growth and development. Emphasis is placed on those aspects of growth and development that will help educators to understand human individuals as functioning organisms in a social environment. The materials of the course are selected from pertinent fields, including anatomy, embryology, genetics, neurology, physiology, hygiene, sociology, cultural anthropology, and developmental psychology.

A. *Introduction to Social Science*. One term. Credit three hours. Open to freshmen.

A study of the social organization of communities, designed to introduce the student to the fields of economics, government, sociology and anthropology. During the first year attention will be directed successively toward a primitive community, toward the New England town of the seventeenth century, and toward a modern rural community, and modern city.

Fee for materials furnished, \$3.

B. *Introduction to Social Science*. One term. Credit three hours. Prerequisite, Social Science A.

A continuation of course A. Fee for materials furnished, \$3.

PUBLIC SPEAKING

45. *Dramatic Production*. Stagecraft. One term. Credit three hours. Open to sophomores and upperclassmen by consent of the instructor. Laboratory fee, \$5.

The theory and practice of stage production; planning of small theatres; stage arrangement; problems and practice in scene construction, design, and elements of lighting. Lectures, demonstrations, reports.

PLANT MATERIALS

The courses listed under this head are given in the Department of Floriculture and Ornamental Horticulture of the New York State College of Agriculture.

12. *Herbaceous Plant Materials*. One term. Credit two hours. Lecture and laboratory. A study of the ornamental herbaceous plants used in landscape and garden plantings. Emphasis is placed on the identification, use, and culture of spring-flowering bulbs and perennials. The class visits Rochester parks and gardens in May. Laboratory and transportation fee, \$7.

112. *Herbaceous Plant Materials*. Advanced Course. One term. Credit one hour. Prerequisite, Course 12. Lecture and laboratory. A continuation of Course 12 dealing with annuals and late-summer and fall-flowering perennials.

nials, The arrangement and use of herbaceous plants in the garden is studied. Laboratory fee, \$2.

13. *Woody-Plant Materials*. One term. Credit four hours. Lectures, laboratory and field trips. A study of the trees, shrubs, and vines used in landscape planting. Emphasis is placed on their characteristics and value for use as landscape material. The class will visit Rochester parks and gardens. Laboratory and transportation fee, \$7.

113. *Woody-Plant Materials*. Advanced course. One term. Prerequisite, Credit 13. Credit two hours. Lecture and laboratory. A continuation of Course 13. An opportunity for the more intimate study of important groups of ornamental plants, particularly their adaptability to landscape use. A trip is taken to Rochester parks. Laboratory and transportation fee, \$7.

ENGINEERING

The courses listed under this head are given in the School of Civil Engineering. Some of them, as will be noted, are designed primarily for students of Architecture, Landscape Architecture, or Regional and City Planning.

C.E. 210. *Elementary Surveying*. Required of students in Civil Engineering. One term as assigned. Credit three hours. Use of steel tape, level, and transit; fundamental surveying methods; measurements of lines, angles, and differences of elevation; land surveying, areas, and plotting. First term, one recitation and two field, computation, or mapping periods a week; second term, three recitation periods a week for the first six weeks and three field, computation, or mapping periods a week during the remainder of the term. Textbook: Breed and Hosmer's *Elementary Surveying*.

C.E. 212. *Advanced Surveying*. For students in Landscape Architecture. One term. Credit two hours. Prerequisite, Elementary Surveying 210. Profile leveling; cross-sectioning; earthwork; circular curves and spirals; vertical curves. Recitations, computations, and field work. Textbook: Breed and Hosmer's Vol. I.

C.E. 212 A. *Advanced Surveying*. For students in Landscape Architecture. One term. Credit two hours. Prerequisite, Elementary Surveying 210. Topographic surveying; transit and stadia methods; plane table; survey plotting. Triangulation. Recitations, computations, and field work. Textbook: Breed and Hosmer's Vol. I.

C.E. 226. *Materials Laboratory*. Juniors. One term. Credit three hours. Prerequisite course, Architecture 210 and must be taken with or preceded by C.E. 280. Experimental determination of the properties of materials by mechanical tests. Study of testing machines (their theory, construction, and manipulation); calibration of testing machines and apparatus; commercial tests of iron and steel; tensile, compressive, torsional, shearing, and flexure tests of metal and various woods and stress-strain observations; tests of cement, concrete aggregate, concrete, plain and reinforced, and of road material and paving brick. The course is planned to supplement Course 225 with its study of the properties of materials by the actual handling of the materials and by observation of their behavior under stress. Laboratory work two 2½-hour periods a week.

C.E. 227. *Testing of Materials*. (Laboratory.) One term. Credit one hour.

Prerequisite, Mechanics 210. Given especially for students in the College of Architecture. A brief course in laboratory methods comprising tests of beams and columns in steel, wood, and concrete.

C.E. 265. *Highway Engineering*. Required of all Civil Engineering seniors. Elective for certain graduates. One term. Credit three hours. Prerequisite, Courses 260 A and 260 B. The course consists of lectures and recitations considering the economic selection of routes, economics of location, modern tendencies in design and practice, subgrade soils, drainage, subgrade stabilization, finance, and the technique of construction and maintenance of flexible and rigid types of pavement. In addition to the class work a problem is assigned which requires a complete redesign for modern traffic conditions of an old highway.

C.E. 268. *Modern Highway Planning and Design*. Elective. Seniors and graduate students. One term. Credit three hours. Prerequisite, Course 265 or its equivalent. Study of geographical, political, and economic divisions of communities with particular reference to highway transportation requirements; analysis of regional plans chiefly concerning the classification of roads and the selection of routes to be abandoned or improved, based upon their economic justification. Design of regional systems of highways, freeways, and parkways, including the consideration of the economic, safety, and aesthetic aspects. Traffic studies, legislation, financing, and zoning. Design of intersections and grade separations. Problems and reports required.

C.E. 280 A. *Concrete Construction*. For architects. One term. Credit three hours. Prerequisites, Arch. 210 and 211, or C.E. 220 and 221. (Students who have taken C.E. 220 and 221 may substitute 280 for 280 A). Properties of plain concrete, elementary theory of reinforced concrete as applied to beams and slabs, columns, footings, and retaining walls. Textbook: Urquhart and O'Rourke's *Design of Concrete Structures*. Three 2-hour periods a week.

C.E. 281. *Foundations*. Juniors and seniors. One term. Credit three hours. Prerequisite, Courses 220 and 221. Piles and pile driving, including timber, concrete, tubular, and sheet piles; cofferdams; box and open caissons; pneumatic caissons for bridges and buildings, caisson sinking, and physiological effects of compressed air; pier foundations in open wells; freezing process; hydraulic caissons; ordinary bridge piers; cylinders and pivot-piers; bridge abutments; spread footings for building foundations; underpinning buildings; subterranean explorations; theory of bearing capacity. Textbook: Jacoby and Davis's *Foundations of Bridges and Buildings*. Recitations, collateral reading in engineering periodicals, and illustrated reports. Three hours a week.

282. *Reinforced Concrete Building Design*. Elective. Seniors and graduates. One term. Credit three hours. Prerequisite, course 280. Design of a reinforced concrete flat-slab building and investigation of various other types of floor systems for commercial buildings. Complete detail design for one building, including stairway, elevator shafts, penthouses, etc. Working drawings and steel schedules. Textbook: Urquhart and O'Rourke's *Design of Concrete Structures*. Seven and one-half hours a week.

C.E. 290. *Engineering Law*. Seniors. Juniors admitted only by special permission of the Faculty. Also open to Seniors in Architecture, Mechanical, Electrical, and Chemical Engineering, and to other Seniors submitting acceptable qualifications. One term. Credit three hours. Basic essentials of

contracts and contract principles; agency, tort and independent contractor; laws regulating acquisition, use, and conveyance of lands and waters, including irrigation law, real estate documents, boundary lines, wills, eminent domain and title searches; corporations, partnerships, and other contracts of association; sales and transportation contracts; negotiable instruments; bankruptcy, mechanics liens, patents, trademarks, copyrights, courts, and laws of insurance. The course culminates with the preparation of a set of contract documents for an assigned construction job, including advertisement, surety bond, form of proposal, information to bidders, agreement form, general conditions and specifications with full discussion of important clauses such as payments, time limit, arbitration, extras, liquidated damages, and abandonment of contract. Tucker's *Contracts in Engineering* is used as a text, supplemented liberally from other sources. Lectures and recitations. Three hours a week.

UNIVERSITY REQUIREMENTS

HYGIENE AND PREVENTIVE MEDICINE

Every entering student is required to report at Barton Hall during the registration days of the first term to make an appointment for a physical examination. There will be repeated periodical examinations if the first or subsequent examination indicates the need of them. Seniors are required to make an appointment for a physical examination during the regular registration days of their last term of residence. All students in the first year of undergraduate courses are required to attend a lecture-recitation course in Hygiene and Preventive Medicine given once a week throughout the year, as follows:

Hygiene. 1 and 2. Throughout the year. Required of all Freshmen. Credit one hour a term. One lecture-recitation each week, with preliminary examination and final each term. The use of a textbook will be required. Students must report each term for registration and assignment to section, in the first term at Barton Hall and in the second term at the men's and women's gymnasiums respectively.

MILITARY SCIENCE AND TACTICS

Basic Course. Throughout the year. The complete course covers two years. Three hours a week. Required of all able-bodied first and second year male students of the College of Architecture who are American citizens and candidates for a baccalaureate degree. The requirements of Military Science and Tactics must be completed in the first terms of residence; otherwise the student will not be permitted to register again in the University without the consent of the Faculty. Students who are officially relieved of the requirement in Military Science and Tactics are subject to the requirement of an equivalent period of work in the Department of Physical Education. The course of training is that prescribed by the War Department for Senior Division Units of the Reserve Officers Training Corps for basic students. Instruction is offered in Field Artillery only. For details see the *Announcement of the Department of Military Science and Tactics*.

Advanced standing. With the approval of the Department of Military Science and Tactics, credit may be allowed a student for all or part of the Basic Course requirement, upon presentation of evidence of satisfactory work completed at an approved institution.

PHYSICAL EDUCATION FOR WOMEN

Required of first and second-year candidates for baccalaureate degrees. Throughout the year. Three periods a week. The requirements must be completed in the first terms of residence; otherwise the student will not be permitted to register again in the University without the consent of the Faculty. The program consists of six weeks of outdoor sports in fall and spring; indoor classes in badminton, basketball, fencing, dancing (folk and modern), golf, games, individual gymnastics, riding, riflery, and swimming.